

Global Partnerships Display/Video Sell-Side Business Review

This document contains Google Need-to-Know information.

Agenda	
Progress on action items from previous QBR	
1	Market and Business Overview <ul style="list-style-type: none">- Q3 Revenue- Market view and Revenue growth<ul style="list-style-type: none">- Video market view (pre-read)<ul style="list-style-type: none">- Video signals update- Web market (pre-read only)- Apps market view (pre-read)<ul style="list-style-type: none">- Apps Platform update
2	Strategic Issues and Deep Dives <ol style="list-style-type: none">1. Apps quality update2. Product Adoption OKRs: 2020 preview<ol style="list-style-type: none">a. Commerce3. PG update
3	Appendix
<div>2 Google</div> <div>This document contains Google Need to Know information.</div>	

Simon

Progress on action items from previous QBR (Q2'19)

Proprietary & Confidential

Topic	Owner	Status	Comments
Video Staples What % of revenue is DBM vs. others and what are the trends with that type of inventory buying?	Julie Sterling	Completed	Over the last 12 months DBM has been range bound between 52% and 68% of AdX video revenue. AdX 3p Buyer ~30%; AdWords ~10%. Visualization in Appendix
Video Signals Activation Deeper review by product analysts behind declining CPMs	Julie Sterling	Work in progress	Product analyst team conducting two deep-dive analyses in Q4'19 - Q1'20 on fill rates and publishers changing signals
CSAT & Data Launchpad Share key takeaways from data launchpad progress in US with Sissie	Kristina Hahn	Completed	Sent to Sissie on Aug 16th. Sentiments on Privacy overall. Highlights of the Deloitte research and Ongoing Projects in the space.
PG Q4 Readiness & 2020 Acceleration Evaluate "what value prop do we want to create and associated pricing for that?" Does adding more value in PG lead to cannibalization in our OA business? What is the limited feature set needed to crack this, and what will it cost in terms of time, etc? What percent of the market are we on PG, and what is the real potential based on our 2020 strategy?	Chris LaSala	Reviewing Today	Covered in later deep-dive
China Domestic Perform a review and draft proposal on sandboxed investment including investment from product, sales, BD, etc. with a proof point	Joyce Zhang, Henry Heung	Work in progress	<ul style="list-style-type: none"> iOS: Opportunistically help overseas developers target China audience. Marco Polo is [REDACTED] of the buy-side domestic Apps rev in 2018/2019. Android: Deprioritized most China domestic activities (e.g. Panda). Will follow up on a separate Xiaomi testing/deal review

Meeting notes - GP Display/Video Sellside Q2 2019

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This document contains Google Next-to-Know information.

Simon

Marco Polo (help overseas developers target domestic China audience)

2019: [REDACTED] forecasted domestic apps rev

Marco Polo: [REDACTED]

Domestic inventory from OPG: 54%

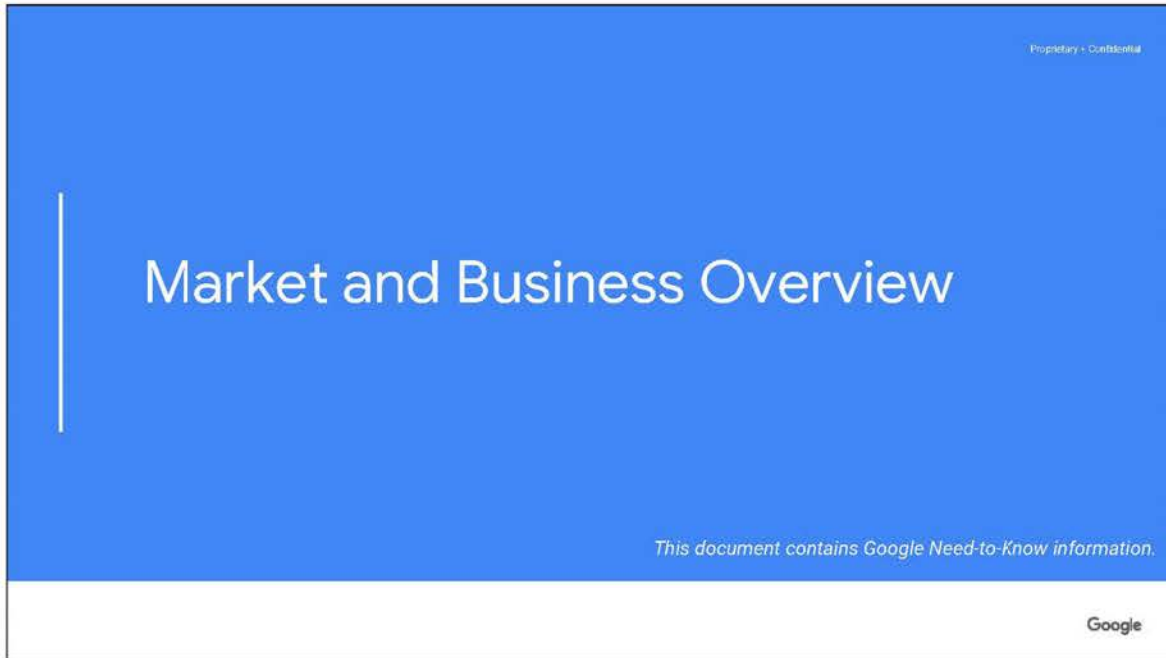
Domestic inventory from LPS: 7%

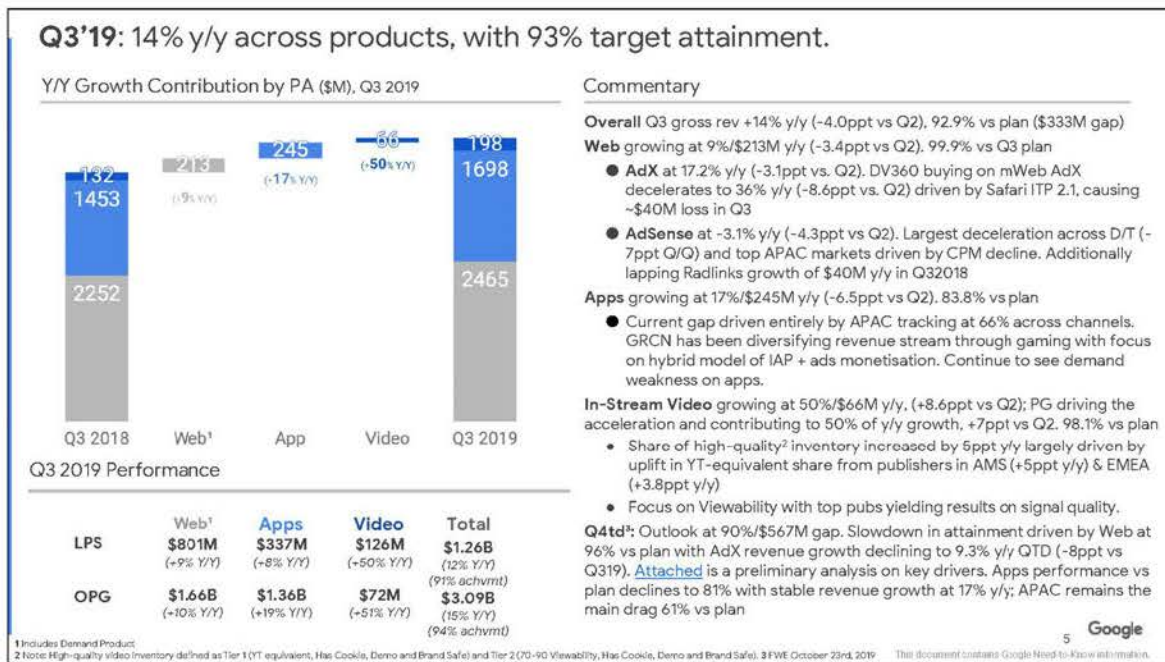
2018: \$145M

Marco Polo: [REDACTED]

Domestic inventory from OPG: 53%

Domestic inventory from LPS: 7%

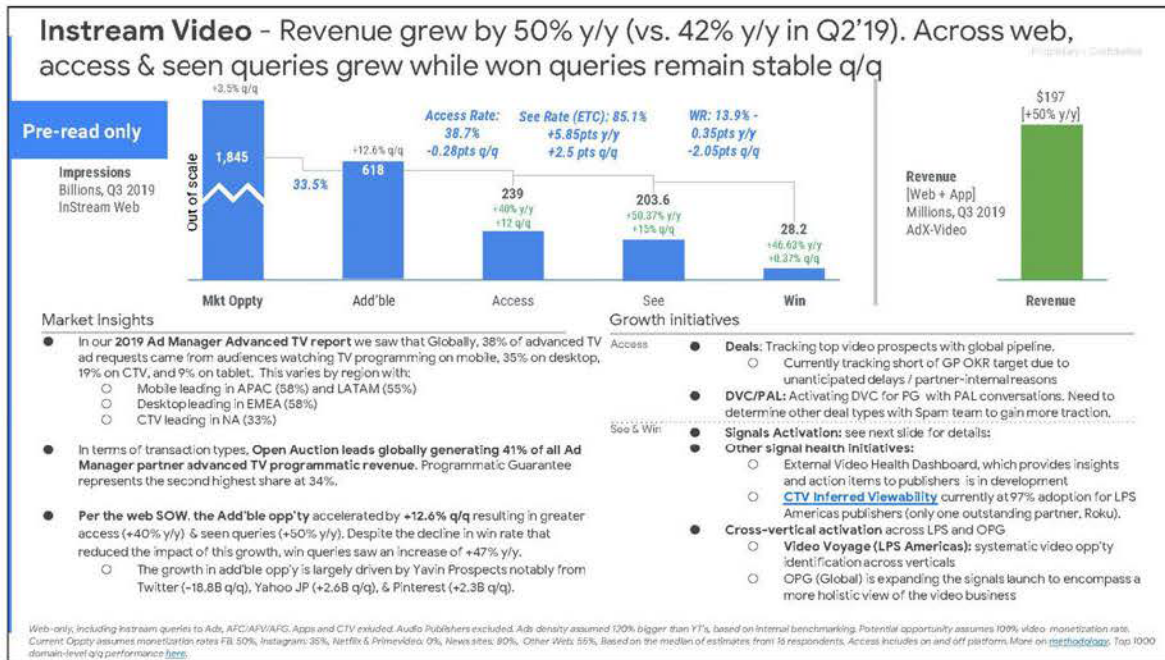




Simon

Revenue source go/q3-19-pinned

Net revenue: overall, gross and net growth was fairly similar for Q2, the biggest difference (which also is not that big) I see is for demand coming from AdX Buyers where the TAC rates are pretty high.



Skip - Julie:

EMEA LPS prospects contributes to the increase in access queries with growth in gaming sites (e.g: Wowhead () q/q)) and news sites (e.g: dailymail.co.uk at () & Britannica at ())

Won queries saw y/y growth, but remained stable q/q as growth initiatives pan out:

EMEA & NA makes up the majority share of the won queries at 84% of total & have positive won queries trends of +47.6% y/y and +42.5% y/y respectively

Despite this growth, win rate dipped q/q across all ad quality buckets in Q3 (e.g: YT equivalent has a -4.9pts q/q decline)

2019 Advanced TV report - built by publisher marketing in collaboration with RevIntel, GSL, GTM, and the product teams.

Video Signals OKR - While revenue and % of impressions for high quality inventory increased globally, OA CPMs and auction fill rates declined

Has Cookie	Viewability	Has Demo	Rated G, PG, T	US "Same Store" YoY							
				% of imps		Median OA CPMs		OA CPM MH "uplift rate"		AdX auction fill rate	
				Q3 2019	yoy	Q3 2019	yoy	Q3 2019		Q3 2019	yoy
✓	[90+]	✓	✓	21%	+5pp	\$10.40	-4%	1.20x		32%	+17pp
✓	[70-90]	✓	✓	19%	+1pp	\$9.99	-5%	1.20x		30%	+4pp
✓	[70-90]	✗	✓	4%	--	\$8.76	-9%	1.06x		23%	+2pp
everything else (baseline)				55%	-6pp	\$7.66	-9%	1.00x		14%	+6pp

Has Cookie	Viewability	Has Demo	Rated G, PG, T	Non-US "Same Store" YoY							
				% of imps		Median OA CPMs		OA CPM MH "uplift rate"		AdX auction fill rate	
				Q3 2019	yoy	Q3 2019	yoy	Q3 2019		Q3 2019	yoy
✓	[90+]	✓	✓	31%	+4pp	\$4.34	-8%	1.13x		15%	-9pp
✓	[70-90]	✓	✓	20%	-1pp	\$4.20	-11%	1.11x		13%	-6pp
✓	[70-90]	✗	✓	3%	-1pp	\$3.64	-16%	1.02x		10%	-5pp
everything else (baseline)				46%	-2pp	\$3.21	-17%	1.00x		6%	-3pp

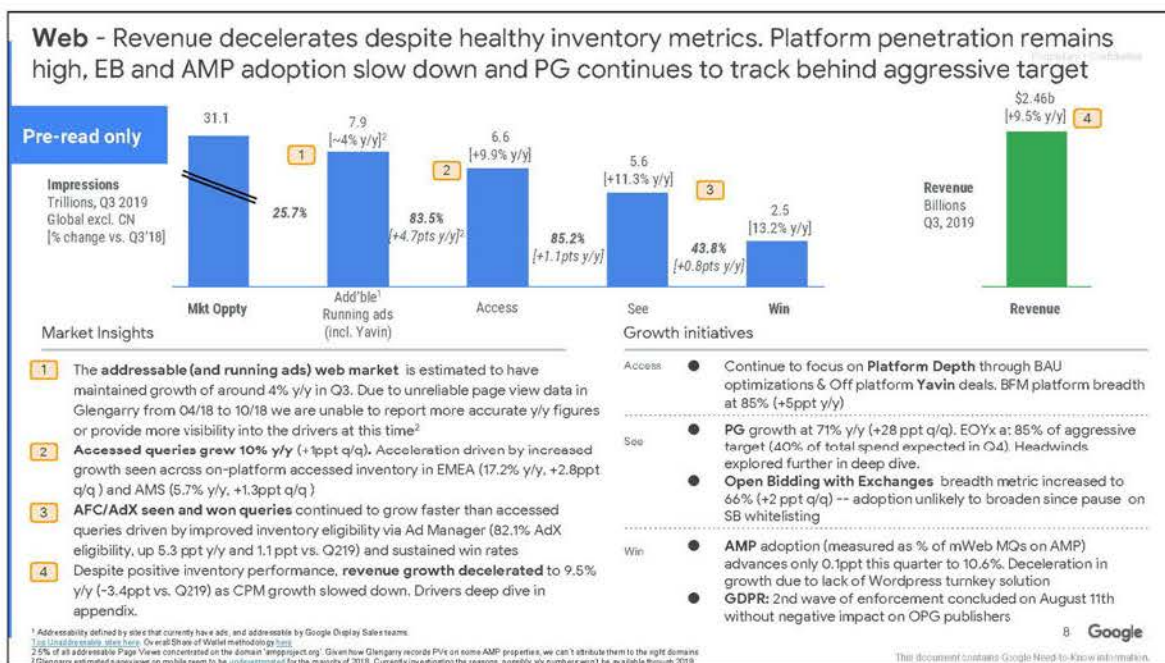
Commentary

- % of "Same Store" impressions for high quality inventory increased across OA driven by Americas and APAC
 - Conducted formal signal reviews with majority of top Video partners
 - Deployed [Video Viewability guide](#) in webinars and events
 - Q4'19 launch of Video Programmatic Health report in Query Tool will continue momentum
- Mixed results from a "performance perspective" on US vs Non-US inventory
 - US fill rates increased (esp in top tier), while Non-US fill rates decreased (*more analysis to be done in Q4'19*)
 - CPMs down across the board - however, less of a decline in the top tier vs baseline
 - Network desktop CPMs are roughly in-line relative to YT desktop CPMs (\$13.30 vs \$12.63).
- Product analyst team will continue to deep dive on CPMs / and why fill rates are not higher for best tiers

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Julie
Q2 QBR slide for reference

% of impressions for high quality inventory increased across OA driven by Americas and APAC; top 5 partners driving this increase were [REDACTED]



Sandra - skip

Source: <https://docs.google.com/spreadsheets/d/1mqPBXMRJsOZSf8ns-Xc9esIWncsaeZSAUukEnU9p9TI/edit#gid=881369511>

Q3 2019 Notes

AMP pageview RPM performance overall is neutral, AdSense outperforming Ad Manager relative to non-AMP due to simplicity of demand stack

Wordpress solution does not auto migrate publishers, mileage varies depending on compatibility of chosen WP theme + plugin

AMP page speed benefit is remarkable in regions with slow connections, 2G regions (India) achieving up to 50% AMP deployment, while 5G regions don't see any speed benefits

AMP-script failing to enable custom functionality that relies on background updates, possible that AMP-PWA service worker framework could

Q2-19 Notes

Market insights:
WIP version of Web SoW data

Growth initiatives:

Platform

PG - Headwinds (Reminder and level set that these headwinds are somewhat expected as we are trying to re-make an existing market):

Notes from BFM June 2019 Narrative doc

Difficulty proving product value relative to price (buy & sell) as compared to tag-reservations.

Currently PG at 75% parity with traditional reservation features with goal to be at 90% parity by EOY.

Pubs are having trouble raising eCPMs on these buys, but costs are higher

Opportunity to show the value more in the front ends (spam, viewability, global frequency capping, etc)

Price is a point of friction compared to traditional reservations on both buy and sell

Structural challenges in Pubs/Agencies

Pubs and Agencies require organizational & incentive changes for PG to be successful vs traditional reservations. This takes time but is another source of friction

EB - The estimated ceiling of the metric is 75% as this feature request is only available in AdManager 360 (AdManager pubs needs to go through an exception process)

Notes from BFM June 2019 Narrative doc

At 64%, up 4pts, we are seeing broad adoption across all regions, with higher adoption where exchange participation is greatest. We will likely move to tracking 'Share' in the latter half of the year given the high breadth.

Additionally, EB is at ~\$790m ARR, growing 60% y/y adding ~\$40M in new fee revenue.

Worth noting that exchange bidding was initially an effort to i) move demand from transacting via avg prices in the ad server (where we collect a small amount of ad serving fee revenue - 2.3%) to transacting via RTB (where we collect 5% of gross revenue) and ii) move HB spend into admanager.

Good news: We are finding that introduction of EB has encouraged pubs to make more inventory available to our open auction, and although we cannot definitively attribute all Open Auction growth to EB we do know it is a contributing factor. OA and EB are gaining share while Header bidding and 3P mediation is losing share.

However, we should not get too complacent, as we are seeing that EB is NOT erradicating header bidding, as pubs are very comfortable multi-homing.

AMP - attributable to a variety of factors. A turnkey solution would help adoption across any market- WP plugin is the closest we have, but is still oriented heavily towards tech-savvy developers

AMP monetization is inversely correlated with ad stack complexity- 3rd party networks often not supported on AMP

Q1-19 Notes

This slide is our classic view which does not include Yavin which I will go into detail in next slide as to how we are going to integrate that going forward.

The market i.e. all web grew by ~4.6% Y/Y in Q1.

Good news is that Addressable with Ads piece (~24% of the market) grew faster than the market - a lot of this is in APAC and is concentrated in sites like: pixiv.net, livedoor.jp, syosetu.com, rakuten.co.jp (Japan), tribunnews.com (SEA)

88% of the addressable web now runs on our platforms (AFC and AdManager) which is the access bar on this chart - we have had a really big focus on this in 2018 and its a top metric also for 2019

We have been growing how much of that Google competes for faster (+7.1%) than we are growing what's running on the platform (+3.8% Y/Y)

- this is through initiatives like PG and EB which have been big drivers of growth here. In saying that we are bit behind where we would like to be in Q1 for PG. A lot of this is due to buy side weakness so we are working to help drive adoption there.

Also, on EB breadth, we have onboarded the majority of the eligible publishers - some room left for expansion on depth but we have stopped whitelisting any new publishers on Ad Manager (SB) while we work on segmentation for Ad Manager Win rate has continued to grow and we now win 44% of everything we compete for - we do have headwinds in 2nd half of year in terms of GDPR and we still have some challenges in terms of performance of AMP traffic.

Source: <https://docs.google.com/spreadsheets/d/1T9vyRhe59ESVB3wm51EONBt-zgY1zRlFlwRJOtfqgU/edit#gid=881369511>

Explaining Chart

Mkt Oppty = all traffic w/ assumption on #ads/page based on historic ratios

Add'ble = Excluding FB, pom, etc.

Access = On our platform (AdSense or DRX)

See = We compete (so primarily excluding direct (ETC =)

Win = Won impressions.

Q119 supporting notes:

APAC growth in addressable market concentrated in some sites: [REDACTED] (Japan), [REDACTED] (SEA)

Driven by growth in APAC and potentially AMP PVs ([REDACTED] responsible for [REDACTED] of y/y growth. That domain consolidates queries from AMP sites). We might have less Queries / addr. PV on AMP (lower ad density, or lower access to inventory)

Top access share gainers / losers ([REDACTED]) - (access share defined as the % of estimated ad impressions that Google accesses either via DRX or AFC)

Win: In general, good adoption of existing initiatives; looking towards new features for future growth here

Notes from Tim on Header Bidding:

HB's share of overall Ad Manager impressions is stable - in or around the 7 to 8% of overall impressions served mark. NA still has the largest penetration although is actually in decline.

Amazon are still the biggest grower, and Rubicon are making efforts to step up their HB game, but all in all we're at a comfortable point when it comes to HB. We expect some movements once we fully migrate to 1P and UPRs from late July.

Q418 supporting notes:

Addressable market growth accelerated vs. Q3'18: we have only seen acceleration in APAC - driven by Japan and somewhat concentrated (see list of top 100 sites - <https://docs.google.com/spreadsheets/d/1B1S9xYbPNWXFD6TiFHVIAwWS4gUykXOo-MsufBUQ4so/edit#gid=0>) This is to some extent correlated with AFC/AdX web query acceleration seen in Japan in Q4'18

Total DFP web queries grew a little under 11% Y/Y, with all regions growing more than 6% and APAC and LATAM growing the fastest. The main driver of total query growth was on queries where AdX competed (16% Y/Y), while non-competed-for queries grew around 1% Y/Y. For AdX competed queries, growth was driven by OA (contributing to 55% of the growth), followed by Third Party EB (18%). Third Party EB and PG were the fastest growing, both above 100% Y/Y. Within AdX OA, about 36% of the competed-for queries were EB eligible in Q4 2018 versus 16% in Q4 2017.

PG

Programmatic G'Teed: 81% y/y growth, but trailing aggressive target. Performance below target driven by buy-side weakness (a few large auto clients slowing down PG spend)

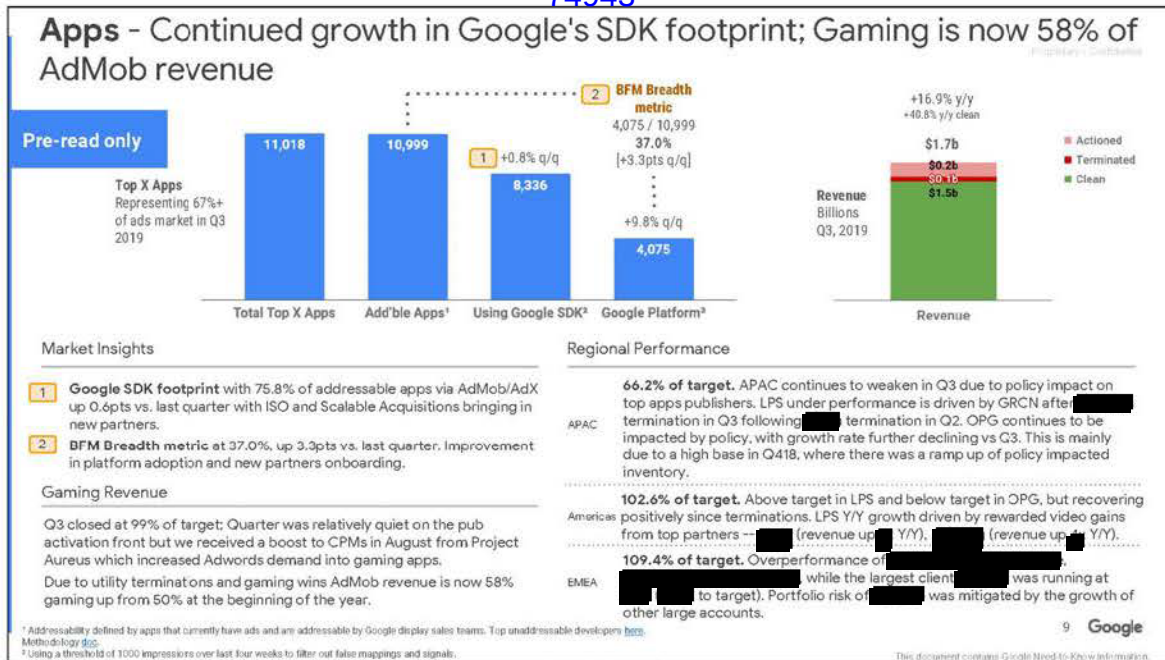
Globally the partnerships teams are working with buy-side counter parts to activate use of pipes from large buyers/agencies. If demand does not ramp, pubs will have less incentive to move inventory into this deal type, so working closely with buy-side.

Additional resource from us not unlocking more, need to drive the narrative with LCS Advertisers and/or their Agencies

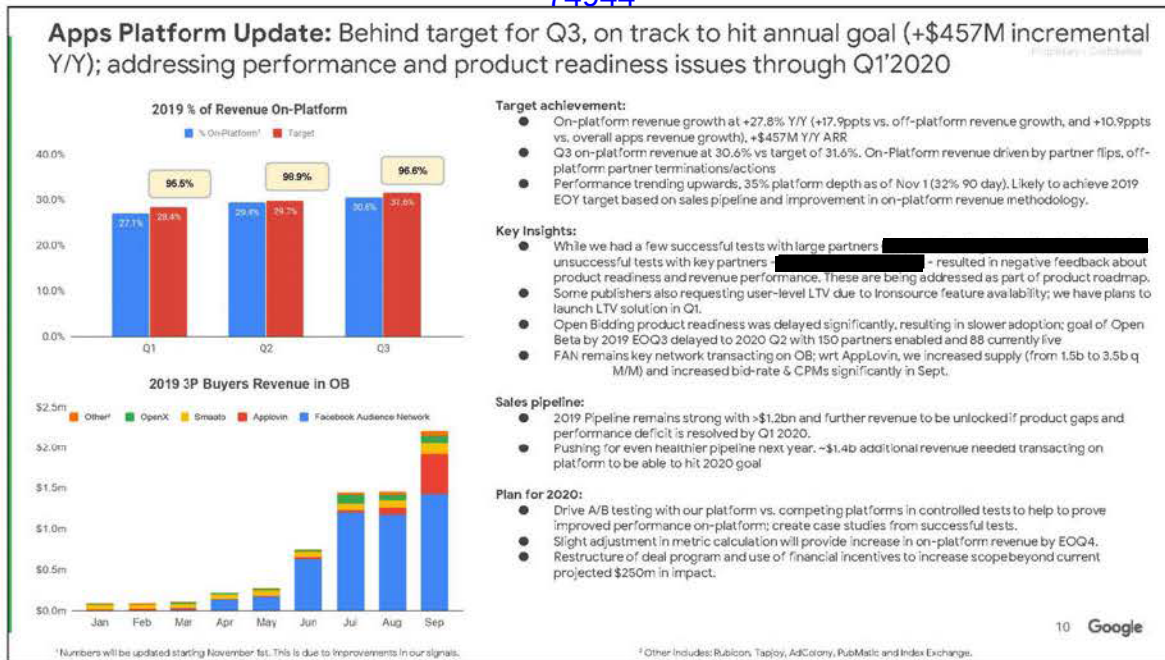
AMP

AMP revenue parity split between OA and Reservations. Ads revenue on AMP in OA environment exceeds that of non-AMP, while reservation revenue on AMP pages are roughly half that of a non-AMP page

OPG teams also have specific OKR to increase the % of ads queries that originate from AMP pages



Zach - skip



Shruti

Off platform partner terminations/actions - [REDACTED]

The changes we are making in the signals are intended to:

Align our on-platform definition for DRX pubs to include direct campaigns in addition to TYM, similar to AdMob.

Align the MedDash definition more closely with the multical cluster data.

Add App-Ads.txt data as a platform signal.

Fix a few bugs surfaced through go/MedDashBug.

While these changes primarily impact Ad Manager accounts, there will be some impact for AdMob accounts too; these changes will positively impact the on-platform numbers, with some reclassification of revenue as transacting on-platform rather than unknown/off-platform. This change will only apply from 1st November 2019 onwards, and not retrospectively. After implementing these changes we saw an uplift of ~2ppts in % of revenue on-platform metric.

2MQ319 vs 2MQ318

On-platform revenue growth: +27.8% Y/Y (approximately +\$114M Y/Y in Q3 19 or +\$450M ARR)

Off-platform revenue growth: +9.9% Y/Y (approximately +\$105M Y/Y in Q3 19 or +\$421M ARR)

Overall apps business growth in Q3 +16.9% Y/Y.

Doc with calculation:

<https://docs.google.com/spreadsheets/d/1JAFG3EEKwz8oqj7gBRe1CMp8YOK6ZAGSQwEv4edUCBU/edit#gid=1466692823>

On-platform wins: [REDACTED]

Losses: [REDACTED] (testing iS and AdMob - moved from Fyber, iS had a 20% uplift compared to Fyber, AdMob had minimal uplift), [REDACTED]: Now is a successful flip, had tested Ad Manager 3 times with negative results, continually tweaking the test with Google, now showing more positive results. [REDACTED] - Testing but not satisfied. Bug around FAN performance for banner

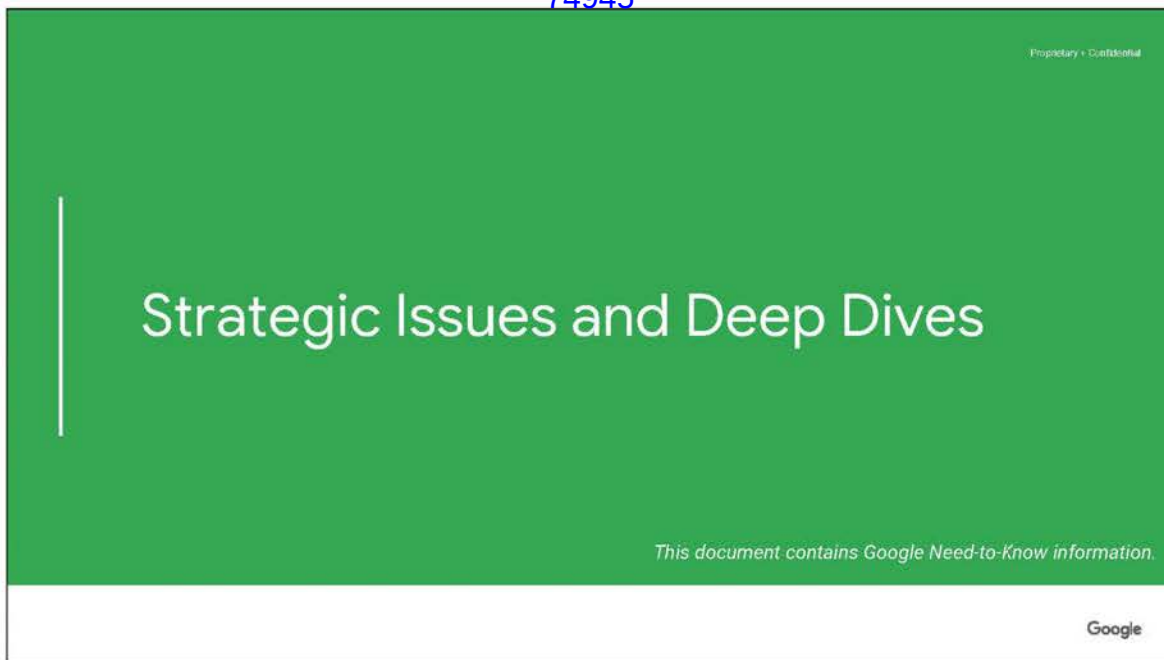
Flips represent over ~70% of the incremental revenue on platform

AMS: Large platform flips from [REDACTED]

joined force to onboard [REDACTED]

APAC: Large platform flips from [REDACTED]

EMEA: Large platform flips from [REDACTED]; Large new acquisitions flips [REDACTED]



Deep-dives on key strategic issues for the sell-side monetization business:

1. Apps quality update
2. Product Adoption OKRs: 2020
 - a. Commerce
3. PG update

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Simon



John

2019 YTD Actions

2019 saw significant investments in removing bad actors from our ecosystem due to improved mechanisms for detecting bad actors, increased enforcement, Partnerships-led review of accounts, and T&S-led process improvements. Among these, we saw significant impact from detection of and enforcement against out-of-context interstitials ('outstittals') which resulted in a realized impact of \$180m in 2019 (purely from the inventory no longer being monetized).

As well as this, there were significant losses from detection that resulted in subsequent termination: [REDACTED]

[REDACTED] were all demonetized and removed from Play due to violating the disruptive ads policy.

T&S and Partnerships both led initiatives to identify bad actors; Peel was identified as a bad actor through Partnerships-led activities, while Project Rush Hour on the T&S side was used to reduce Invalid Traffic exposure; increased publisher throttling, the launch of app-ads.txt, Ad Risk Containment and removal of other bad actors drove \$300m in realized impact in Q3 2019.

Revenue at Risk

OPG is partnering with T&S, AdSpam PMs, Google Play Policy and AdMob PMs to create a methodology for calculated potential revenue at risk from an ecosystem health perspective. This uses a range of signals from AdSpam, App Store and Play Store review data, Play Policy, and AdMob to create a probabilistic model for revenue at risk on a per-app basis. Note that this methodology is still being refined and requires sign-off from AdSpam, T&S, AdMob PMs and Google Play Policy.

Based on this, we see revenue at risk of ~\$300m ARR, but this number could be even higher depending on the criteria/methodology we decide.

Using the current methodology, there are \$4.0m ARR at risk due to apps receiving policy warnings, \$133.8m ARR due to high click spam rate, \$12.3m ARR due to users submitting bad reviews in the app store, \$22.1m ARR due to confirmed click, \$0.8m ARR due to throttling, and \$112.5m ARR due to high CTRs.

Partnerships are leading, in conjunction with T&S, Play, PM and Eng, a range of workstreams to remediate rather than terminate partners, and to provide Sales and Partners with the ability to improve implementations without exposing AdSpam signals.

Case Studies

We can highlight two examples of partners who were subject to Policy actions; [REDACTED] were all at risk of termination due to detected outstittals in their apps; in each case, the issue was due to them showing ads on the 'back to game' page, which they were not aware was a policy violation.

On sharing this with the partner, rather than terminate \$133m in revenue, the partners were able to continue monetizing in good standing with Google.

On the other hand, [REDACTED] were driving fraudulent clicks and monetizing outstittal inventory; this partner was demonetized and removed from the Play Store due to violations of AdSpam and disruptive ads policies, with impact of \$150m.

Steps to Address Apps Quality Issues

Apps Ecosystem Health is a cross-PA initiative focused on 10 separate work streams to resolve critical issues across

Partnerships, Play, and T&S to drive a healthier app ecosystem for advertisers, publishers and users.






These goals include decreasing revenue at risk through remediation of partner inventory, greater transparency for partners with regard to policies, and cross-PA alignment on policies, launches and enforcement to improve the in-app ads experience at an Ecosystem level.

As part of this, an initiative called Safe Flight has been jointly led by Partnerships and T&S to proactively review the managed portfolio of apps and identify potential issues with content, ad implementations and traffic; these issues can then be remediated together with the partner before any punitive actions are taken by Play or T&S.

Dashboard: go/AppsEcosystemHealth

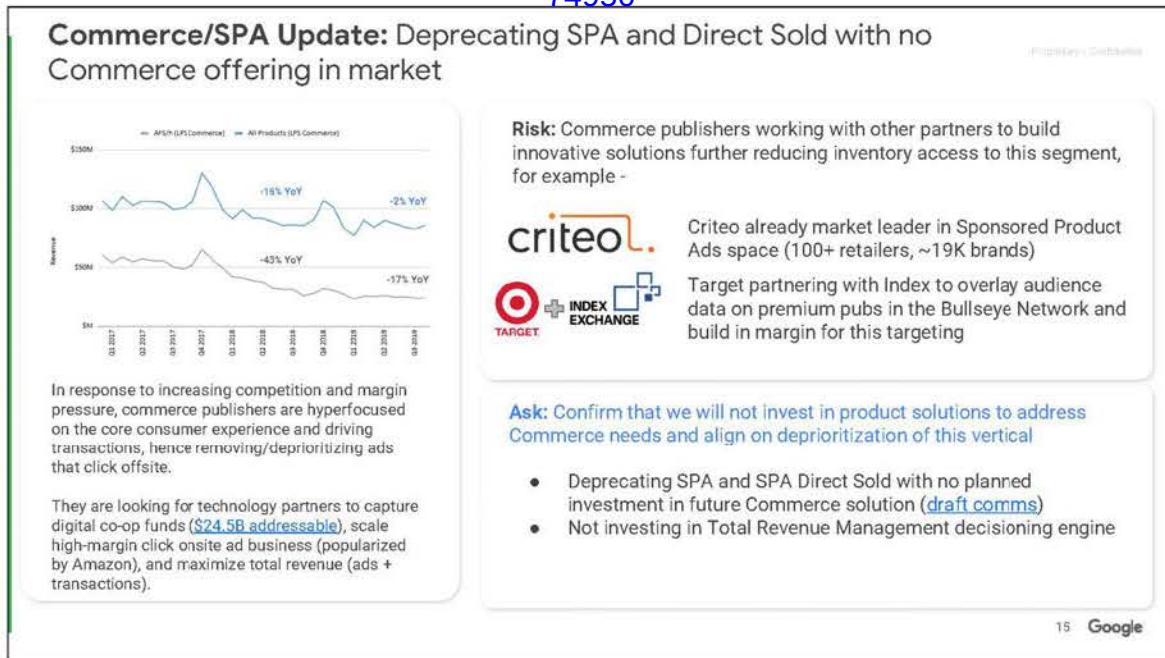
Methodology document:

<https://docs.google.com/document/d/1m97V3FOt2bphCkRKNf2EwUPsIMd6AzD56yL32goLkY8/edit?ts=5d9c3e8f>

Prod. Adoption OKRs: Continuous focus on driving platform adoption in apps while maintaining a healthy ecosystem. Expand efforts on acquiring high quality video instream and monetizing via PG. Unclear Search strategy.		Detail in following slides
2019		2020 (Same okr / New okr / Deprecated okr)
 Apps	<ul style="list-style-type: none"> ● Grow gaming revenue ● Drive platform adoption and rev on platform ● Drive total app impressions 	<ul style="list-style-type: none"> ● Remove specific 'gaming' OKRs ● Drive OB and platform adoption; grow rev on platform ● Remove app impressions ● Drive revenue via new format adoption and Firebase ● Minimize revenue at risk (monitor key apps signals)
 Video Instream	<ul style="list-style-type: none"> ● Onboard TV/OTT Whales ● Increase quality 'viewable' inventory 	<ul style="list-style-type: none"> ● Onboard TV/OTT Whales - <i>pending open decision</i> ● Broaden quality inventory definition: viewability, brand safe, cookie and device id ● Grow programmatic adoption on YT PFP
 X-Program. And Web	<ul style="list-style-type: none"> ● Shift reservations to prog. - Grow PG rev. ● Shift indirect yield management: EB breadth ● Drive adoption of Auto ads ● AMP: Drive volume & improve monetization ● Onboard pubs on Ad Connector ● Revenue on platform (web) ● Unlock New acquisitions (web and app) 	<ul style="list-style-type: none"> ● Grow PG revenue w/ buy-side: focus on video ● Open Bidding "depth" ● Drive adoption of Auto ads ● Simplify AMP metrics to track AdX performance in AMP ● Replace AdConnector with 'new biz top prospects' ● Revenue on platform (web) - tracking ● Unlock New acquisitions (web and app)
 Search	<ul style="list-style-type: none"> ● Onboard new pubs on SPA 	<ul style="list-style-type: none"> ● Remove SPA OKRs <i>pending open decision</i>
 Ecosystem	<ul style="list-style-type: none"> ● Drive initial adoption of FC 	<ul style="list-style-type: none"> ● Expand FC goals to cover CMP

Chris

- use set up to ask if these are the right focus
- we will use this forum going forward to track progress



Chris

Slide Overview:

No offering to currently address Commerce partner needs: SPA being deprecated, AFS business declining overall, partners removing click offsite ads, partners looking to digitize coop budgets

Highlight asks from Commerce partners: Ability to own digital shelf space, ability to directly manage relationships with top brands and provide self service model for tail / torso brands, ability to optimize total revenue (ads + sales)

Confirm we will not be prioritizing Commerce as a vertical

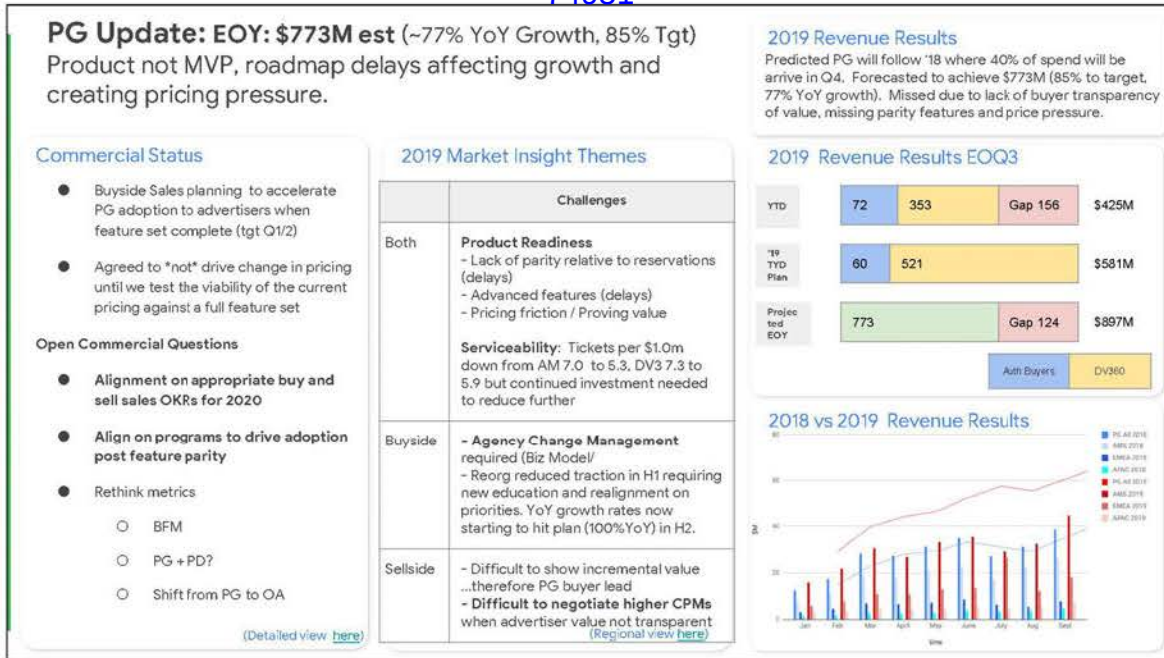
Commerce/SPA Summary (provided by Chris over email):

Cover the 'commerce' direction as part of [the Product Adoption OKRs] update

Essentially removing any commerce specific 2020 goals given we will not have a Coop product in market (once SPA Direct deprecation is final) and we will have no meaningful product offering that meets their needs (no TRM, AFS not relevant)

Note:

Not a true 'deep dive' per say but slide to be built out and included in appendix



Chris

Lack of parity and value transparency features puts pressure on price

Multiple pricing variations investigated over the summer.

Considered moving all fees to buyside. Given PG rev share reduces working media, one proposal to push fees up to DCM

Other proposals considered (here)

Decision to hold on price until parity met EOQ Q1.

Sellside to consider making 5% default

PG Update: Need Roadmap to deliver to achieve \$1.1B 2020 Goal. Investment in TV would drive sustained growth but requires commitment.				
Roadmap	Q4	Q1	Q2 & Beyond	TV Investment (+\$4B opt by '23)
Parity with tags	Active View 4 Custom Creatives	Makegoods	Brand Safety Serve time blocks	- TV Investment (+\$4B opt by '23) - Baseline roadmap investment still needed to win in TV - Need x funl alignment & priority to progress PG video investment strategy
	COP support 4 Custom Creatives	CPM Sponsorships	Align Creative Policies across tag platforms	
		Master and Companion	Pausing Deals & Attaching T&Cs	
Advanced Features	Value transparency in UI	Pub Profiles improvements	Advanced Buyer decisioning	Auth Buyer investment
	Google Audiences (Beta)	Measurement / viewability flexibility	Youtube instant Reserve	- To ensure widespread PG industry adoption, need PG to be fully available to all buyers - AS Realized stronger growth in '19 vs DV3 despite low investment - Missing key features: Custom creatives, sponsorships, makegoods - Need x funl alignment & priority to progress Auth buyer PG investment
		Surface buyer freq cap metrics	Streamline PG Workflows	
		YouTube Reserve Programmatic Guaranteed CSAM [Beta]	TV and Auth Buyer investment	
Serviceability		Deals Health Dashboard		
		Line Item Troubleshooter	Key Ad Mgr DV3 Both	

Chris

Current plan focused on converting display tag spend where we are the pipes (12-16B Opportunity)
 Considering stronger pivot toward primary objective of winning TV (esp. for high CPM inventory) in conjunction with slow/steady transformation of display reservations to PG

Increase PG opportunity by \$4B 2023

Parity features for converting tag spend are required for unlocking TV in the future

Need x funl alignment and priority to progress PG video investment strategy

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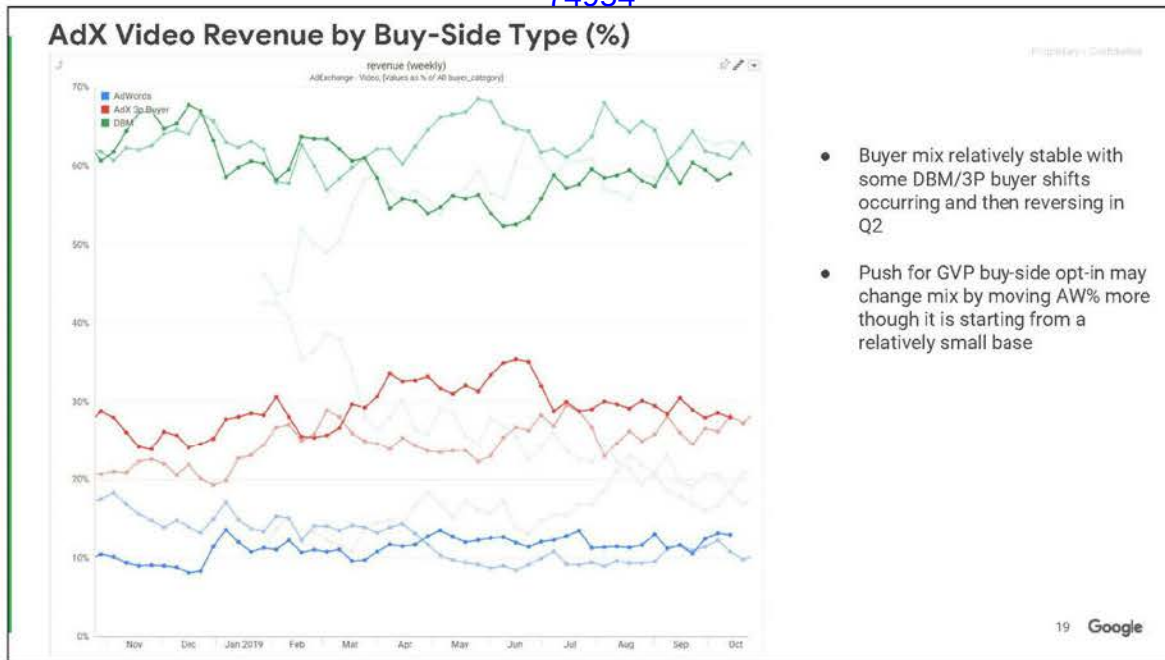
Appendix

- Performance against forecast by Product and Region
- Deep dive support slides

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Nelson

Q319: Display/Video growing at 14% Y/Y; Search growing 6% Y/Y; Overall at 12% Y/Y

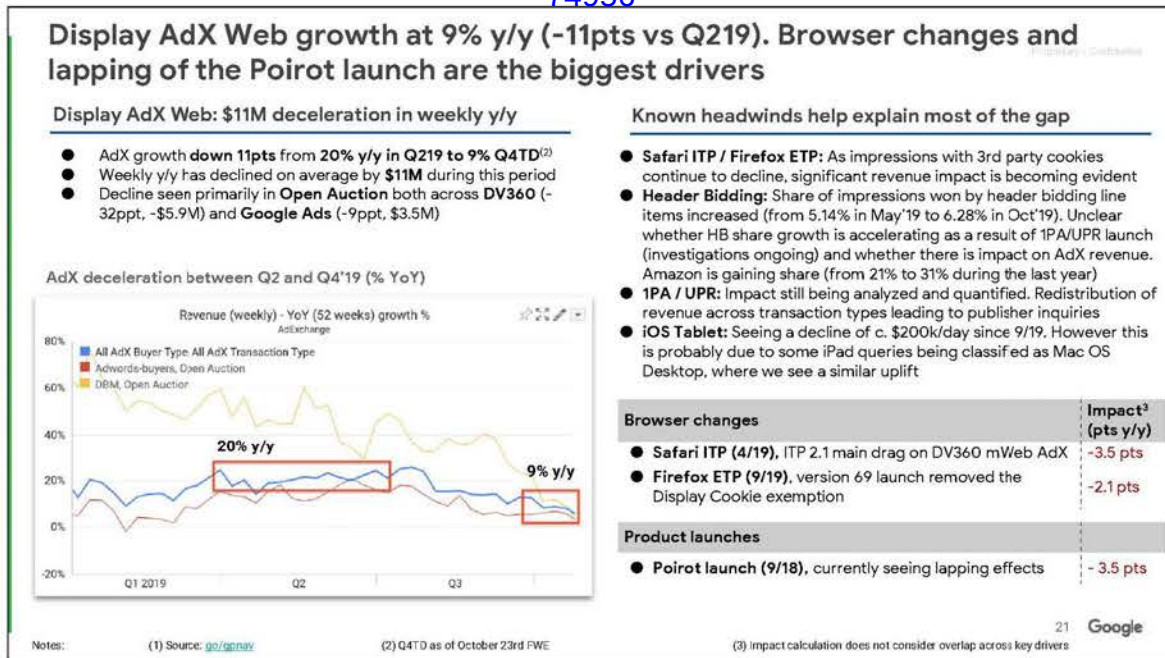
	Display and Video									Search			Total Sell Side Revenue		
	Google Network Web			Google Network App			Google Network Video			AFS + AFD					
Q3-19	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	Imp YoY	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	MQ/Imp YoY
LPS - Americas	\$450.9	11%	9%	\$157.7	62%	22%	\$73.7	34%	63%	\$443.7	1%	-20%	\$1,126	13%	9%
OPG - Americas	\$660.8	6%	10%	\$244.7	17%	21%	\$36.6	28%	42%	\$30.7	66%	40%	\$973	11%	13%
Americas	\$1,111.7	8%	10%	\$402.3	31%	21%	\$110.3	32%	56%	\$474.4	3%	-17%	\$2,099	12%	11%
LPS - EMEA	\$262.6	10%	7%	\$54.1	71%	26%	\$32.4	44%	60%	\$205.0	13%	-5%	\$554	17%	9%
OPG - EMEA	\$639.5	16%	18%	\$470.5	45%	36%	\$29.5	79%	87%	\$35.4	-2%	11%	\$1,175	27%	24%
EMEA	\$902.1	14%	13%	\$524.6	48%	35%	\$61.9	59%	73%	\$240.3	11%	-2%	\$1,729	23%	20%
LPS - APAC	\$98.2	8%	8%	\$143.6	-27%	-15%	\$9.3	53%	113%	\$30.8	4%	24%	\$282	-13%	-4%
OPG - APAC	\$365.9	6%	13%	\$627.2	6%	16%	\$3.5	105%	125%	\$10.7	5%	-12%	\$1,007	6%	14%
APAC	\$464.1	7%	12%	\$770.9	-3%	6%	\$12.8	64%	117%	\$41.4	4%	11%	\$1,289	1%	9%
OPG	\$1,666.3	10%	14%	\$1,342.4	19%	24%	\$69.6	49%	65%	\$76.8	19%	15%	\$3,155	14%	18%
LPS	\$811.6	10%	8%	\$355.3	9%	-3%	\$115.4	38%	68%	\$679.4	4%	-12%	\$1,962	9%	8%
Total	\$2,477.9	10%	13%	\$1,697.8	17%	17%	\$185.0	42%	67%	\$756.1	6%	-9%	\$5,117	12%	14%

- 1 Web in transition from CT (-6% Y/Y, 44% of rev) to mobile (+24% Y/Y, 56% of rev) 2 Apps still main growth driver (43% of growth), but share of growth declining. EMEA now fastest growing region followed by AMS 3 In stream video still small, but growing. 51% of growth driven by Programmatic Guaranteed, followed by OA (28% of growth) 4 Search is highly concentrated (top 5 partners ~67% of revenue). Y/Y growth now positive driven by strong AFD growth (54% Y/Y)

Total Video Rev = \$754M. 3 components: 1) \$32M in Network Web outstream, +7%y/y, \$2.7 eCPM; 2) \$537M on Apps outstream, +33% y/y, \$3.3 eCPM; 3) \$185M in stream, +42%y/y, \$8.8 eCPM 20

Simon

On Search - The subsegment of arbitrage partners pull this down (e.g. Vinden.nl, United Internet). But maybe too much detail for here. See https://docs.google.com/presentation/d/1QjQuJ-Jlb_V7WgGzwHWp4n3EKhpl_vO6P7WMqFU7ehA/edit#slide=id.g59da6d8b8a_0_10



Nelson

Chart: <https://screenshot.googleplex.com/vXWqtfrUA77>

Browser changes:

Safari ITP, impact is ~500k a day on adx from ITP 2.1 started back in April. We lost ~800k a day growth on cookied users and gained back ~300k a day of growth on non cookied users (adwords shifted spend mainly). Link

Unclear impact from the most recent launch on iOS 13

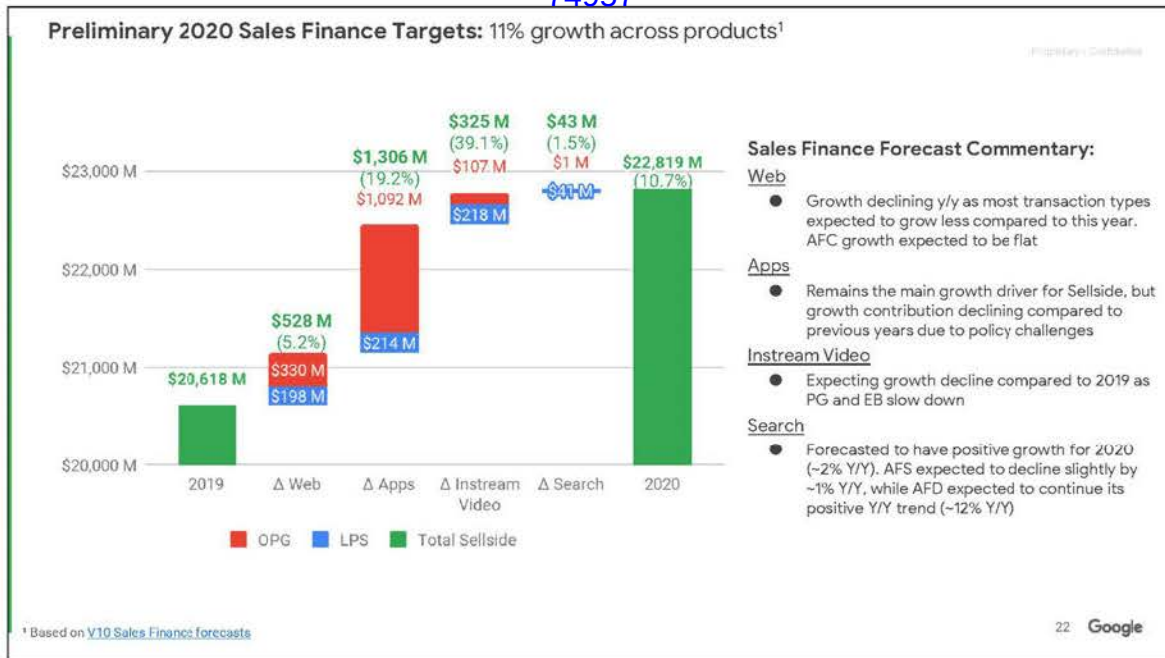
Firefox, impact is ~300k a day impact on ADX (600k network). I'm ignoring budget movement effects for now / I'm saying these are pre budget effects. Link

Market trends:

Product launches:

Other/platform specific:

iOS Tablet



Chris
— use this slide to set context for prod. Adoption okrs

Product adoption OKRs: 2020 Preview (1 of 2)

Note: 2020 metrics/goals currently WIP (ETA Dec 2019)

Overall SS Revs to grow to \$23B; 11% y/y in 2020 [Apps: \$8B (19% y/y); Video Instream: 1.2B (39% y/y); Search: \$3B; 2% y/y). Growth in apps driven by platform penetration, Firebase, OB and new formats while maintaining a healthy ecosystem. Clarity on Video and Search product investments required.

Product Group	2019 OKR metric	2019 target	Q3 ytd target	Q3 ytd performance	2020 Strategy	2020 metric	2020 Target
Apps	Increase Gaming revenue	\$3.3B	\$2.2B	\$2.2B	Evolve towards all apps revs	Gross revs	\$8.1B
	Increase total app impressions	5.6T	4.1T	4.2T	No change	#Impressions	n/a
	Grow rev. "On-Platform"	To 34%	32%	30%	No change	%Revs from apps in google mediation	51% \$4B
					Drive Firebase adoption	%Rev Firebase linked	40%
					Onboard partners in OB	% Apps enabled in OB	WIP
Video	Onboard top global TV/OTT players	32 of 84	+24 partner	17 partner	Increase revenues from new formats	% Apps that have adopted new formats	WIP
	Grow high viewability (90%+) video instream inventory	48% (y/y)	48%	187%	Maintain a healthy ecosystem	% Rev at risk	40%
					No change - to be confirmed with product	#New deals 100% renewals	21; 100%
					Evolve towards gaining high quality inventory (defined by a broader set of signals: viewability > 50%, Brand safe content, Cookie, Device id)	% of high quality video instream inventory over all video instream inventory	33%
					Move partner inventory to pfp	y/y/ queries from pfp	WIP
Search	Onboard new Partners on SPA	52	40	14	Deprecate SPA - to be confirmed with product	n/a	n/a

Rev numbers as ytd; % numoers as in the last 90 days. Colour coding as indicated in GP OKRs. Full detail in 2020 okrs [here](#).

Rev numbers as ytd; % numbers as in the last 90 days. Colour coding as indicated in [GP OKRs](#). Full detail in 2020 okrs [here](#).

Chris
Complete narrative here.

Product adoption OKRs: 2020 Preview (2 of 2):

Note: 2020 metrics/goals currently WIP (ETA Dec 2019)

Overall SS Revs projected to grow to \$23B; 11% y/y in 2020 (PG: \$1B; 32% y/y - Web: 11B; 5% y/y). More clarity on PG investments from both product as well as buy side required. Broader focus on web performance to ensure optimal monetization of content.

Product Group	2019 OKR metric	2019 target	Q3 ytd target	Q3 ytd performance	2020 Strategy	2020 metric	2020 Target
Cross-Programmatic	Increase PG revenue	\$897m (108% y/y)	\$581 M	\$433M	No change but higher focus on video	PG Revs	\$1,007M (31.8% y/y)
	Onboard Pubs enabled in Demand Prod.	15 (from 2 in 2018)	12 Pubs	3 Pubs	Replace by new biz top prospects	#Ad hoc deals	WIP
	Grow OB AdManager Breadth	75%	70%	66%	Move to depth - <i>to be confirmed with product</i>	%OB queries over indirect inventory	n/a
Ecosystem	Onboard Pubs on Funding Choices	70	58	37	Evolve to differentiate btwn AdBlocking + CMP + other	#Pubs in FC	WIP
	Onboard Pubs w/ Google audience in PG	20	15	0	Deprecate due to data leakage risks	n/a	n/a
	Limit Rev at risk of domains failing ads exp reports	<1%	<1%	<1%	No change	Revs at risk	<1%
Web	Maintain AdX Revenue Parity (AMP vs non-AMP)	1.1	1.1	1.1	Simplify AMP strategy to focus only on AdX monetization - <i>will likely evolve into VOLT once launched in 2020</i>	Adx revs on AMP over non-AMP	1.1
	Grow Reservation Imp. Parity (AMP vs non-AMP)	0.7	0.7	0.6		n/a	n/a
	Grow %mWeb queries AMP'd	15.9%	13.6%	9%		n/a	n/a
	Grow% PVs eligible for AFC Auto Ads	29.6%	27.1%	29.4%	No change	%PVs eligible	80%
	Increase revenue "On-Platform"	94%	92.8%	95.2%	No change	%Revs from pubs in AdManager	n/a

Rev numbers as ytd; % numbers as in the last 90 days. Colour coding as indicated in GP OKRs. Full detail in 2020 okrs here.

Chris
Complete narrative here.

PG Update: Appendix: Regional Insights and gTech deep dive

Proprietary + Confidential

2019 Market Insights Buyside View

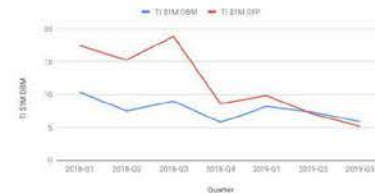
	Highlight	Lowlight
NA	<ul style="list-style-type: none"> ~ 16 clients flipped '19 - Growing 60%+ YoY Flips from '18 (e.g. State Farm, MSFT, VW, HP, Fidelity, etc) accounted for 35%+ of overall PG growth YTD 	<ul style="list-style-type: none"> Agency hurdles Proving value of PG & media consolidation Parity needs 2 largest PG spenders IMSFT and Verizon moved off DV360
EMEA	<ul style="list-style-type: none"> + FR, NL, DK, TR, GB -> L'oreal, Uber, Pandora, Ferrero, McDonalds 	<ul style="list-style-type: none"> -No tracking of graduating \$\$ to OA/PA -Impact from Gemini Q1/Q2.
APAC	<ul style="list-style-type: none"> -Biggest growth with Direct & Independent Agencies - Main growth has been driven by emerging markets. 	<ul style="list-style-type: none"> - PG investment across the Big6 HoldCo's remained static - Mature sub-regions like AUNZ have plateaued

2019 Market Insights Sellside View

	Highlight	Lowlight
NA	<ul style="list-style-type: none"> ~ 120 networks actively using PG, up 10% YoY Harvard Biz Review white paper & maturity scorecard launch 	<ul style="list-style-type: none"> Ad Mgr bug '10/3 Difficult to show incremental value Pricing Friction
EMEA	<ul style="list-style-type: none"> - Joint Buy/sell Acceleration plan - LPS PG revenue grew 108% YoY in Q3 and overshot the quarterly revenue target (110%) 	<ul style="list-style-type: none"> - Serviceability challenges in the UK & Video implementation in EEM - In Market PG prioritization on the buy-side is challenging - Likely miss '19 '19
APAC	<ul style="list-style-type: none"> - India continues to thrive \$27m run YTD (LPS \$24m, CPG \$3m), growing +93% w/y - Successful DAI - PG tests with live cricket in India 	<ul style="list-style-type: none"> - Region will miss forecast by \$25m (LPS target \$80m), largely in AUNZ - AUNZ continues to struggle (locked out of premium video inventory, lack of value prop to publs)
CPG	<ul style="list-style-type: none"> - In Q3, CPG PG revenue grew 131% YoY - CPG EMEA is 	<ul style="list-style-type: none"> - While all regions are seeing Q3 YoY query growth, it has decelerated 93pp

gTech PG Status: Costs declining YoY

Tickets per M declining as rev and deals grow YoY



Summary of Initiatives

Accelerate Inventory Onboarding via E2E Pipeline Testing
 - Piloted/standardized 5 advanced features* testing to ensure correct implementation, \$31M+ ARR

Keep Tickets Flat YoY as Revenue Continues to Grow
 - Key LI troubleshooter updates to reduce tickets

- Detailed Video / VPAID rejection reasons (~2% tickets)
- Add "Creative did not render" (longstanding ask)

 - Launched [preflight test dashboard](#) & [pilot service](#) to flag potential VPAID & 3P creative issues (15% of total rejections)

Enlighten Customer via Buy/Sell Collaboration
 - [Global buy-sell workstreams](#) to tackle top issues
 - Launch Project Bread & Butter across AMS60, DV360 & 3P DSPs

- Median TTR down 32% (from 17hrs to 11hrs) as of Q3

Chris